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Posted Date: 9 May 2026

doi: 10.20944/preprints202605.0591.v1

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 doi:10.20944/preprints202605.0591.v1

Article

Sellar Solitary Fibrous Tumor Mimicking Pituitary Adenoma: Diagnostic Pitfalls and Radiological–Pathological Correlation

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Abstract

Background/Objectives: Sellar solitary fibrous tumors (SFTs) are exceptionally rare mesenchymal neoplasms that frequently mimic non-functioning pituitary adenomas both clinically and radiologically. Because of their nonspecific imaging characteristics, accurate preoperative diagnosis remains challenging and often requires histopathological and immunohistochemical confirmation. Nuclear STAT6 expression has become a key diagnostic marker for this entity. **Methods**: We present a case-based diagnostic analysis of a high-grade (WHO grade 3) sellar SFT initially misdiagnosed as a pituitary adenoma. Clinical, radiological, intraoperative, and histopathological findings were systematically evaluated and correlated. In addition, previously reported sellar SFT cases were reviewed to identify recurring diagnostic patterns and pitfalls. **Results**: A 65-year-old male presented with headache, progressive visual impairment, and hypopituitarism. Magnetic resonance imaging demonstrated a heterogeneously enhancing sellar mass with suprasellar extension and cavernous sinus involvement, leading to a presumptive diagnosis of pituitary adenoma. Intraoperatively, the lesion was markedly hypervascular and fibrous, raising suspicion for an alternative diagnosis. Histopathological examination revealed a spindle-cell neoplasm with a hemangiopericytoma-like vascular pattern, increased mitotic activity, and strong nuclear STAT6 positivity, confirming a WHO grade 3 SFT. Literature analysis showed that most reported sellar SFTs share overlapping MRI features with pituitary adenomas and are frequently misdiagnosed preoperatively. **Conclusions**: Sellar SFT should be considered in the differential diagnosis of atypical sellar lesions, particularly when imaging findings are inconclusive and intraoperative features suggest a hypervascular and fibrous tumor. Radiological–pathological correlation, including STAT6 immunohistochemistry, is critical for accurate diagnosis. Increased awareness of these diagnostic pitfalls may improve recognition of this rare entity and guide surgical and pathological decision-making.

Keywords: solitary fibrous tumor; sellar tumor; STAT6 positive; differential diagnosis; pituitary adenoma mimic

1. Introduction

Solitary fibrous tumor (SFT) is a rare mesenchymal neoplasm of the central nervous system characterized by the NAB2–STAT6 gene fusion, with nuclear STAT6 expression serving as a reliable diagnostic surrogate [1,2]. In the current World Health Organization (WHO) classification, SFT is defined as a unified entity encompassing the former hemangiopericytoma spectrum, with grading based on mitotic activity and histopathological features reflecting biological behavior [3].

Although intracranial SFTs are uncommon, involvement of the sellar and suprasellar region is exceptionally rare [4,5]. Due to this rarity, SFT is not routinely considered in the differential diagnosis

 doi:10.20944/preprints202605.0591.v1

of sellar masses. Clinically, patients often present with nonspecific symptoms such as headache, visual disturbance, and hypopituitarism, closely mimicking non-functioning pituitary adenomas [6–8].

Radiological differentiation between sellar SFT and pituitary adenoma remains particularly challenging [9]. Reported MRI findings—including iso- to hypointense signal intensity on T1-weighted sequences, variable signal intensity on T2-weighted images, and heterogeneous contrast enhancement—are largely nonspecific and overlap with those of more common sellar lesions [9–12]. As a result, imaging-based diagnosis is frequently inconclusive, and preoperative misclassification is common [13,14].

In this context, intraoperative findings and histopathological evaluation play a critical role. Several reports have emphasized the hypervascular and fibrous nature of SFTs, which may differ from typical pituitary adenomas and complicate surgical resection [15]. Definitive diagnosis ultimately relies on immunohistochemistry, particularly nuclear STAT6 expression, which has emerged as a highly sensitive and specific marker for SFT [2].

Despite increasing recognition of SFT in the central nervous system, the diagnostic challenges specific to the sellar region remain insufficiently characterized. In particular, the substantial overlap between imaging features of SFT and pituitary adenomas continues to represent a major source of diagnostic uncertainty, potentially affecting both intraoperative decision-making and postoperative management [16].

In this study, we present a case of high-grade (WHO grade 3) sellar SFT initially misdiagnosed as a pituitary adenoma and provide a case-based diagnostic analysis integrating clinical, radiological, intraoperative, and pathological findings. In addition, we review previously reported cases to identify recurring diagnostic patterns and propose a practical framework to improve recognition of this rare entity.

2. Case Presentation

65-year-old male presented with a 6-month history of progressive headache, decreased visual acuity, and generalized fatigue. Initial cranial imaging performed at an outside institution revealed a sellar mass lesion, and the patient was referred to our center for further evaluation.

Endocrinological assessment demonstrated anterior hypopituitarism, including markedly reduced testosterone, prolactin, and thyroid hormone levels, while cortisol and ACTH values were within the low–normal range (**Table 1**).

Table 1. Preoperative endocrinological assessment showing anterior hypopituitarism.

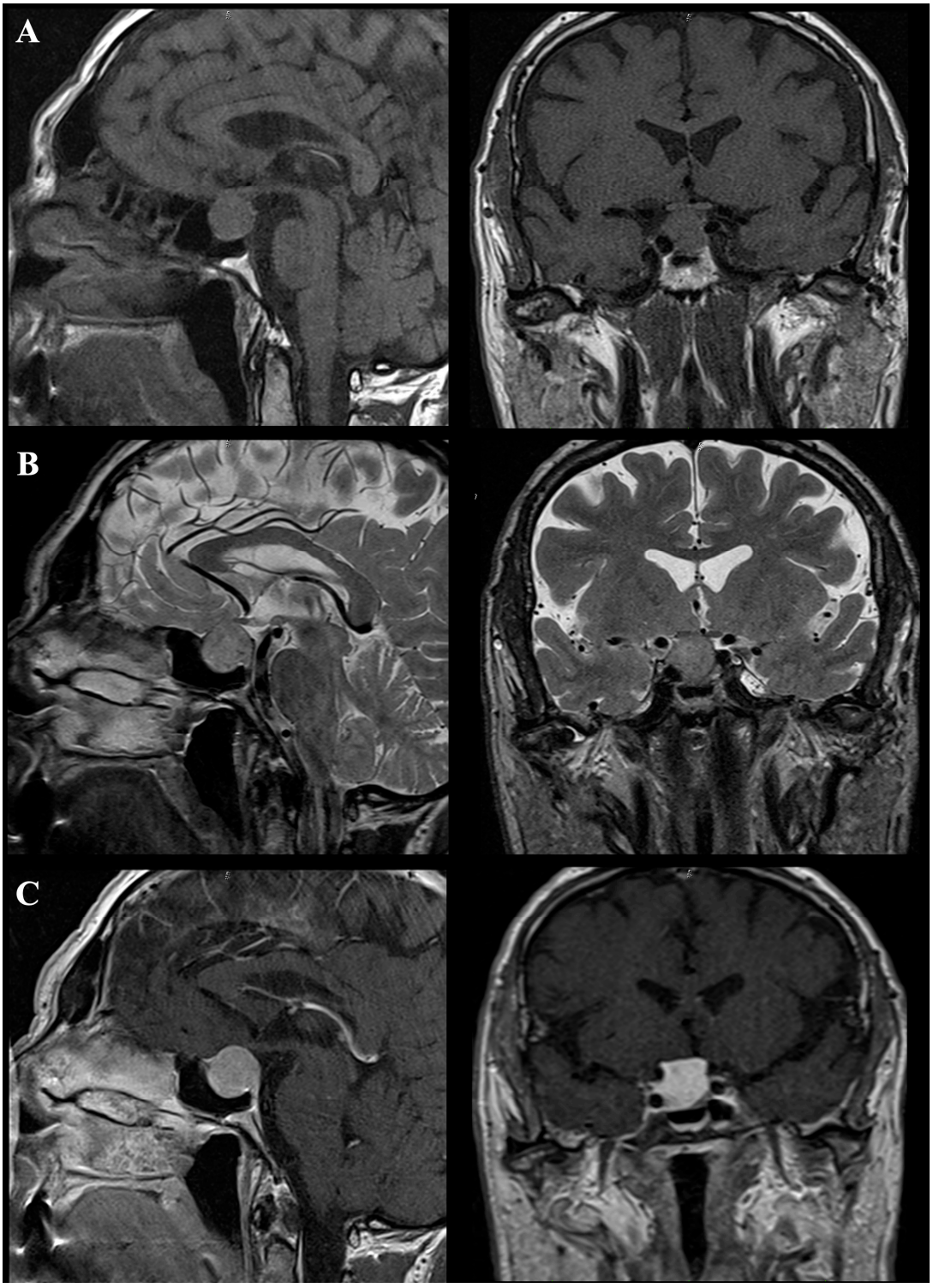
Test	Results	Range
Testosterone	<0.025 ng/ml	2.84–8.0
Prolactin	0.223 ng/mL	1.4–14.6
Growth hormone (GH)	0.1 ng/mL	0.05–3.00
Insulin-like growth factor-1 (IGF-1)	53.9 ng/mL	40–225
Morning 08:00 cortisol	7.42 μg/dL	6.02-18.4
Adrenocorticotropic hormone (ACTH)	12.49 pg/mL	6–36
Thyroid-stimulating hormone (TSH)	0.246 μIU/mL	0.27–4.2
Free thyroxine (fT4)	0.87 ng/dL	0.93–1.7
Free triiodothyronine (fT3)	1.96 pg/mL	2–4.4

The patient had received cabergoline therapy for three months at the referring institution, which resulted in significantly suppressed prolactin levels; the medication was discontinued one week prior

 doi:10.20944/preprints202605.0591.v1

to presentation. Although a visual field defect was suspected on clinical examination, its reliability was limited due to suboptimal patient cooperation.

Magnetic resonance imaging (MRI) demonstrated a heterogeneous sellar mass predominantly located in the right side of the pituitary gland, extending into the suprasellar and parasellar regions with right cavernous sinus involvement (Knosp grade II). The pituitary stalk was deviated to the left. The lesion appeared iso- to hypointense on T1-weighted sequences and exhibited heterogeneous signal intensity on T2-weighted images. Following gadolinium administration, the tumor showed heterogeneous contrast enhancement (**Figure 1**). Based on the clinical and radiological findings, a non-functioning pituitary adenoma was considered the most likely diagnosis [6].



 doi:10.20944/preprints202605.0591.v1

Figure 1. Preoperative magnetic resonance imaging of the sellar region. Sagittal and coronal T1-weighted images (A) and T2-weighted images (B) demonstrate an iso- to hypointense sellar mass with suprasellar extension. Contrast-enhanced sagittal and coronal T1-weighted images (C) reveal heterogeneous enhancement and parasellar extension with right cavernous sinus involvement (Knosp grade II).

The patient underwent endoscopic binostril transsphenoidal surgery. Intraoperatively, the sellar floor was found to be markedly thinned and partially lytic. Following dural opening, the lesion was noted to be unexpectedly hypervascular and firm, with significant venous bleeding originating from the medial aspect of the right cavernous sinus. These findings were atypical for a conventional pituitary adenoma and raised intraoperative suspicion for an alternative tumor entity. Hemostasis was achieved using oxidized regenerated cellulose, gelatin–thrombin matrix, and hemostatic agents. Despite its vascularity, the tumor was removed, and gross total resection (GTR) was achieved (**Figure 2**).

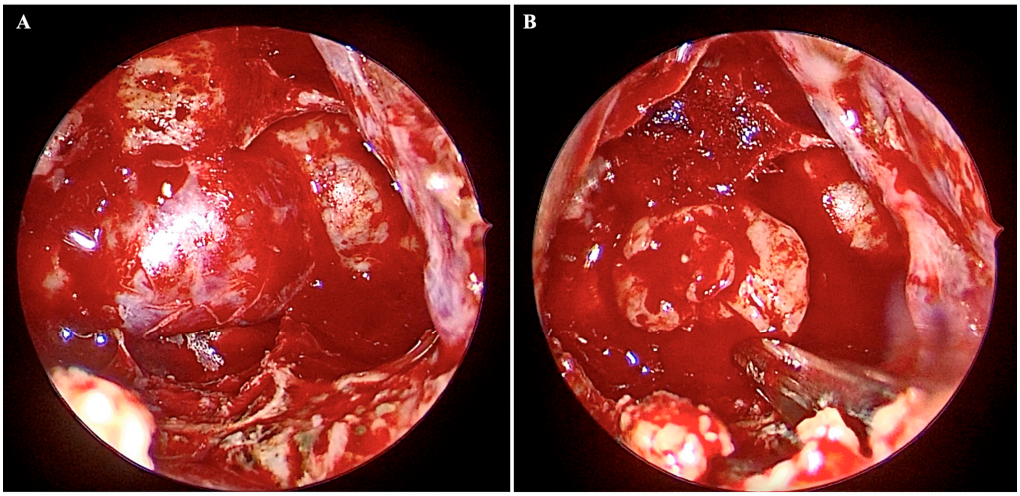


Figure 2. Intraoperative and macroscopic appearance of the tumor. (A) Endoscopic intraoperative view demonstrating a firm and hypervascular tumor with significant venous bleeding. (B) Resected tumor specimen showing irregular, yellow-brown fragments with mixed soft and fibrous consistency.

Histopathological examination revealed a spindle-cell mesenchymal neoplasm with a hemangiopericytoma-like vascular pattern, vesicular nuclei, and increased mitotic activity (6 mitoses per 10 high-power fields). No necrosis was observed. Immunohistochemical analysis demonstrated strong nuclear STAT6 positivity, confirming the presence of NAB2–STAT6 fusion. The Ki-67 proliferation index was approximately 15%, and S-100 staining showed sparse sustentacular positivity. Based on these findings, a definitive diagnosis of solitary fibrous tumor, WHO 2021 grade 3, was established (**Figure 3**).

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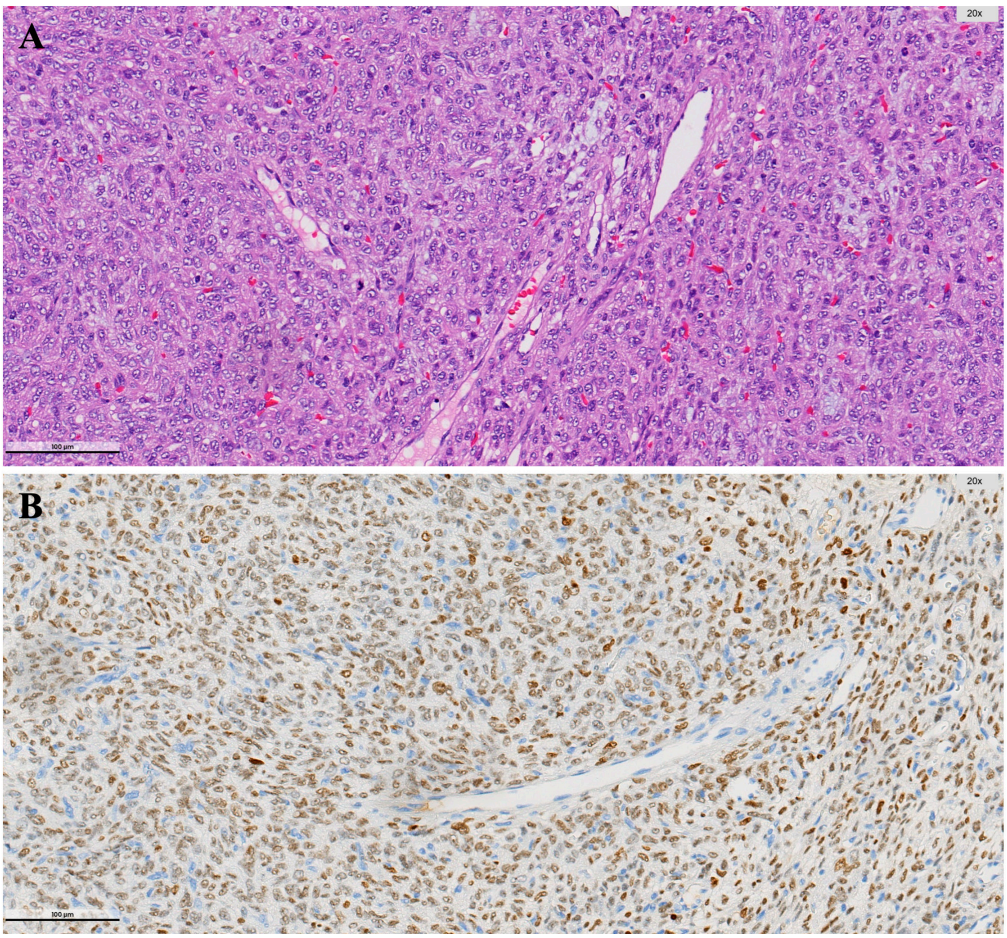

Figure 3. Histopathological findings of the tumor. (A) Hematoxylin and eosin staining demonstrating a spindle-cell neoplasm with a hemangiopericytoma-like vascular pattern (staghorn vessels) (original magnification ×200). (B) Immunohistochemical staining showing strong nuclear STAT6 positivity, confirming the diagnosis of solitary fibrous tumor (DAB stain, ×200 magnification).

Postoperative MRI demonstrated no residual tumor. Given the absence of radiological evidence of residual disease, a surveillance-based strategy was adopted rather than immediate adjuvant radiotherapy (RT). At one-year follow-up, the patient remained clinically stable, and imaging showed no evidence of tumor recurrence, with only a small stable nodular enhancement at the operative site without progression (**Figure 4**). Further endocrinological reassessment under appropriate hormonal replacement therapy revealed values within normal limits [Total testosterone: 122 ng/dL (Range:193-740); Prolactin: 23.6 ng/mL (Range:3.46-19.4); Morning 08:00 cortisol: 12.1 µg /dL; Adrenocorticotrophic hormone: 25.5 pg/mL; Thyroid-stimulating hormone: 0.954 µIU/mL; Free thyroxine: 1.07 ng/dL].

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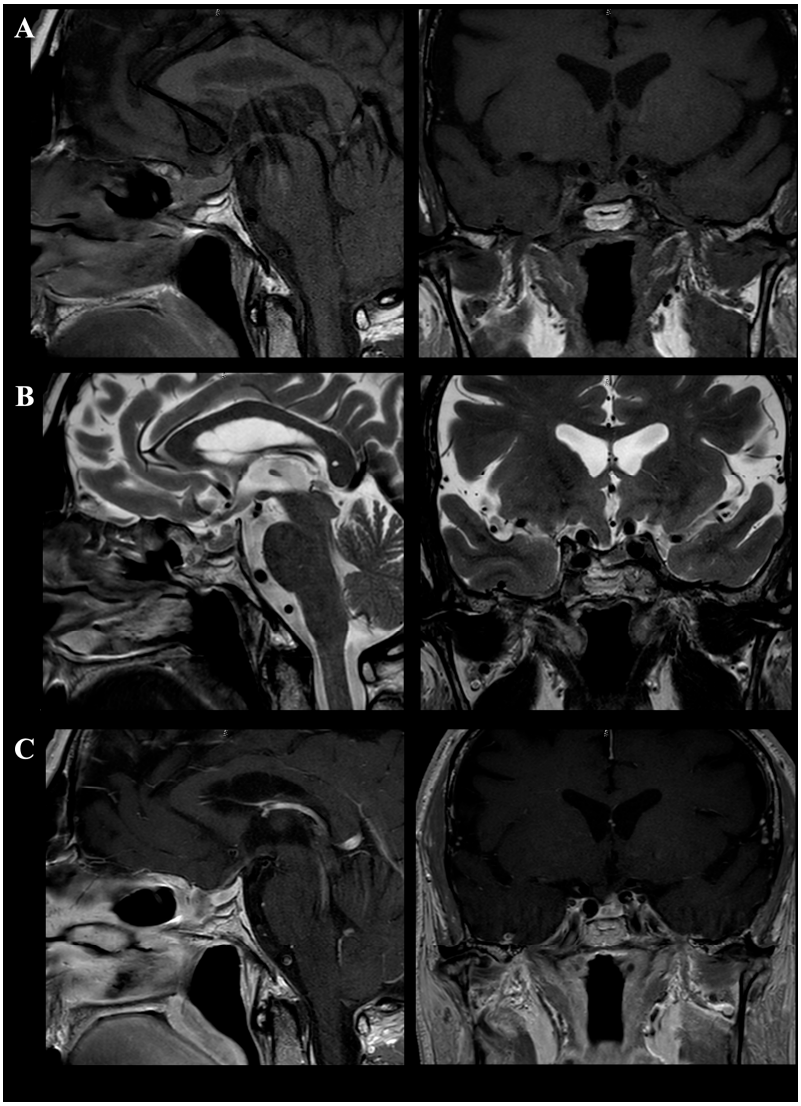

Figure 4. Postoperative follow-up magnetic resonance imaging at 1 year. Sagittal and coronal T1-weighted images (A) and T2-weighted images (B) demonstrate no evidence of local tumor recurrence. Contrast-enhanced sagittal and coronal T1-weighted images (C) reveal a small (3 × 2 mm) nodular enhancing focus at the operative site without interval progression.

3. Discussion

Solitary fibrous tumors of the sellar region constitute an exceptionally rare subset of intracranial mesenchymal neoplasms and remain underrecognized in routine clinical practice [5]. Although SFTs may occur throughout the central nervous system, sellar and parasellar involvement represents only a small fraction of reported cases, which contributes to their frequent exclusion from the initial differential diagnosis of sellar lesions [4].

A consistent observation across the literature is the high rate of preoperative misdiagnosis. Clinically, patients typically present with nonspecific symptoms—headache, visual disturbance, and varying degrees of hypopituitarism—that closely mimic non-functioning pituitary adenomas [6,17]. n the present case, the combination of endocrine dysfunction and sellar localization further reinforced this presumptive diagnosis, reflecting a pattern widely reported in prior studies.

Radiological assessment remains a major source of diagnostic uncertainty. Sellar SFTs generally demonstrate iso- to hypointense signal intensity on T1-weighted MRI, variable signal intensity on T2-weighted sequences, and heterogeneous contrast enhancement after gadolinium administration [9,10]. These features substantially overlap with those of pituitary adenomas and other sellar tumors,

 doi:10.20944/preprints202605.0591.v1

limiting the specificity of imaging-based diagnosis [11]. Consistent with this, no radiological findings in our case suggested an alternative diagnosis preoperatively, underscoring the inherent limitations of MRI in distinguishing SFT from more common sellar pathologies.

In this context, intraoperative findings may provide an important adjunctive diagnostic clue, when available. Several reports have emphasized that SFTs often exhibit marked hypervascularity and a firm, fibrous consistency, in contrast to the typically softer and less vascular nature of pituitary adenomas [15,18]. In the present case, the unexpected presence of significant venous bleeding and a dense fibrous tumor texture prompted intraoperative reconsideration of the initial diagnosis. While not diagnostic in isolation, such features may alert the surgeon to an atypical pathology and influence intraoperative strategy.

A structured analysis of the cases presented in **Table 2** demonstrates a consistent pattern of nonspecific imaging findings and preoperative misdiagnosis.

Definitive diagnosis relies on histopathological and immunohistochemical evaluation. Nuclear STAT6 expression, reflecting the NAB2–STAT6 gene fusion, has emerged as a highly sensitive and specific marker for SFT and is essential for distinguishing it from other spindle-cell neoplasms [2]. The WHO 2021 classification further refines this entity by incorporating mitotic activity and necrosis into a grading system that correlates with biological behavior [3]. In our patient, increased mitotic activity and an elevated Ki-67 index supported the diagnosis of a high-grade (WHO grade 3) lesion.

Analysis of previously reported cases reveals a reproducible diagnostic pattern characterized by nonspecific imaging features, frequent preoperative misclassification, and reliance on postoperative histopathological confirmation [14,16]. As summarized in **Table 2**, no single radiological parameter reliably differentiates sellar SFT from pituitary adenoma, highlighting the need for integrated diagnostic assessment. Collectively, these findings indicate that diagnostic accuracy depends on the combined interpretation of clinical, radiological, intraoperative, and immunohistochemical data rather than any single modality.

Beyond diagnostic considerations, the optimal postoperative management of high-grade sellar SFT remains controversial [1,19]. Due to concerns regarding recurrence and aggressive biological behavior, many reported cases have been treated with adjuvant RT or radiosurgery, particularly following subtotal resection or in the presence of high-grade histology [14,20]. However, the evidence supporting routine postoperative RT after GTR remains limited and is largely derived from small case series rather than prospective studies.

Importantly, RT in the sellar region is associated with non-negligible risks, including optic pathway injury, hypopituitarism, and damage to adjacent neurovascular structures. Therefore, the decision to administer adjuvant therapy should be individualized, balancing potential oncological benefit against treatment-related morbidity [16,20]. In the present case, no residual tumor was identified following endoscopic transsphenoidal GTR, and a surveillance-based strategy was adopted. At one-year follow-up, no radiological progression was observed. This finding suggests that immediate postoperative RT may not be mandatory in all patients with high-grade sellar SFT when complete tumor resection is achieved and reliable follow-up can be ensured.

From a diagnostic and practical standpoint, this case highlights several key considerations. First, SFT should be included in the differential diagnosis of atypical sellar lesions, particularly when imaging findings are inconclusive. Second, intraoperative recognition of hypervascularity and firm tumor consistency may provide an early indication of an alternative pathology. Third, STAT6 immunohistochemistry should be routinely employed in spindle-cell tumors of the sellar region to ensure accurate classification.

Based on the present case and available literature, a practical diagnostic framework can be proposed. Radiological findings alone are insufficient to exclude SFT in the sellar region. Intraoperative features may serve as an important secondary diagnostic signal. Definitive classification requires integration of histopathological and immunohistochemical data, particularly STAT6 expression. Increased awareness of these diagnostic features may reduce preoperative misclassification and support more tailored multidisciplinary management strategies.

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Table 2. Diagnostic features of previously reported sellar solitary fibrous tumors.

Author	Year	Age / Sex	Symptoms	Endocrine dysfunction	MRI findings (T1 / T2 / Enhancement)	Intraoperative Findings	Terminology	STAT6	WHO Grade
Cassarino et al. [21]	2003	54 / F	Headache, visual disturbance	NA	Solid enhancing intrasellar mass	NA	SFT	NA	NA
Pakasa et al. [7]	2005	66 / F	Visual disturbance	NA	Solid enhancing intrasellar mass	NA	SFT	NA	NA
Kim et al. [22]	2005	56 / M	Visual disturbance	NA	NA	NA	SFT	NA	NA
Macfarlane et al. [15]	2005	33 / M	Headache, visual disturbance	NA	Lobulated parasellar/sellar/suprasellar mass with dural tail	Hypervascular, firm	SFT	NA	NA
Juco et al. [17]	2007	18 / F	Visual disturbance, gait imbalance	No major hormonal excess reported	Sellar mass with suprasellar extension	NA	HPC	NA	NA
Jalali et al. [23]	2008	35 / M	Headache, bilateral visual decline	NA	Suprasellar mass	NA	HPC	NA	NA
Furlanetto et al. [6]	2009	28 / M	Visual disturbance, nocturia	Hypopituitarism / possible partial DI	Heterogeneous T1 / Heterogeneous T2 / Strong heterogeneous enhancement	NA	SFT	NA	NA
Das et al. [24]	2010	47 / M	Sudden bilateral visual disturbance, headache	NA	NA	Hypervascular	Malignant HPC	NA	NA
Yin et al. [10]	2010	32 / M	Headache, ophthalmalgia, visual disturbance	Hypoglycemia; no pituitary hormone excess	Iso T1 / Hyper T2 with focal hypo areas / Homogeneous enhancement	NA	Atypical SFT	NA	2 (historical classification)
Jain et al. [25]	2012	63 / M	Headache, visual disturbance	NA	NA	NA	SFT	NA	NA
Wu et al. [26]	2012	53 / F	Decreased visual acuity	Mild prolactin elevation	Mixed iso T1 / mixed iso-hyper T2 / Heterogeneous enhancement	NA	SFT	NA	NA
Zhong et al. [11]	2013	25 / M	Right visual impairment	No hormonal abnormality	Iso T1 / Iso T2 / Heterogeneous enhancement	NA	SFT	NA	NA

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Esquenazi et al. [27]	2014	51 / M	Visual disturbance	NA	NA	NA	Lipomatous HPC	NA	NA
Yang et al. [9]	2015	20 / F	Headache, visual impairment	Mild hyperprolactinemia	Iso T1 / Mixed low-high T2 / Heterogeneous enhancement	NA	SFT	NA	NA
	2015	22 / M	Visual impairment	None	Iso T1 / Inhomogeneous T2 / Homogeneous enhancement	NA	SFT	NA	NA
Sahai et al. [20]	2016	60 / M	Progressive bilateral visual decline	Low T3, low TSH	Iso T1 / Iso T2 / Intense enhancement	NA	SFT	NA	NA
Gibson et al. [28]	2017	34 / M	Visual disturbance	NA	NA	NA	Anaplastic HPC	NA	3
Nesaratnam et al. [29]	2017	73 / F	Headache, visual disturbance	NA	NA	NA	SFT/HPC	NA	3
Ghanchi / Patchana et al. [30]	2020	12 / M	Headache, progressive visual impairment	Polydipsia without overt DI	Homogeneously enhancing sellar lesion	NA	SFT/HPC	Positive	2
Gunasekaran et al. [18]	2020	69 / F	Visual decline, nausea, vomiting	Low ACTH/cortisol	Heterogeneously enhancing cystic sellar–suprasellar mass	NA	SFT	NA	NA
Thapa et al. [14]	2021	87 / F	Headache, visual field defect	Low cortisol, low free T4, mild prolactin elevation	Iso T1 / Iso-hyper T2 / Heterogeneous enhancement	NA	SFT/HPC	Positive	2
Ma et al. [1]	2023	43 / F	Blurred vision	No pituitary hormone abnormality	Iso T1 / Iso T2 / Enhanced sellar mass; later cavernous sinus invasion	NA	SFT	Positive	2
Ebrahimzadeh et al. [31]	2024	54 / M	Progressive blurred vision, headache	No hormonal abnormality	Iso T1 / Hyper T2 / Avid enhancement	NA	HPC (SFT/HPC)	Positive	2
Persico et al. [16]	2025	62 / F	Incidental sellar mass during encephalopathy workup	Endocrine workup unremarkable	Iso T1 / Central T2 hyperintensity / Heterogeneous solid-cystic enhancement	NA	SFT	Positive	3
Present case	2026	65 / M	Headache, visual impairment, fatigue	Anterior hypopituitarism	Iso–hypo T1 / Iso T2 / Heterogeneous enhancement	Hypervascular, firm, bleeding	SFT	Positive	3

 doi:10.20944/preprints202605.0591.v1

Notes: Terminology reflects the original reports. Cases described as hemangiopericytoma (HPC) were interpreted according to the current WHO classification when sufficient data were available. NA indicates data not reported. **Abbreviations:** CE: contrast enhancement; SFT: solitary fibrous tumor; HPC: hemangiopericytoma; NA: not available.

4. Conclusions

Sellar solitary fibrous tumors are rare entities that can closely mimic non-functioning pituitary adenomas, leading to frequent preoperative misdiagnosis. Radiological findings are typically nonspecific, and accurate diagnosis requires integration of intraoperative observations with histopathological and immunohistochemical evaluation, particularly nuclear STAT6 expression.

This case highlights a reproducible diagnostic pattern characterized by inconclusive imaging, atypical intraoperative features, and definitive postoperative confirmation. Increased awareness of these features may improve recognition of sellar SFTs and reduce diagnostic uncertainty.

From a management perspective, our findings suggest that immediate adjuvant radiotherapy may not be mandatory in all high-grade cases following gross total resection. In carefully selected patients without radiological evidence of residual disease, a structured surveillance strategy may represent a reasonable initial approach. Further studies with larger cohorts and long-term follow-up are required to better define optimal treatment strategies.

Acknowledgments: None.

Consent to Publish declaration: Not applicable.

Informed Consent: Written informed consent obtained from the patient for publication.

Competing Interest: The authors declare no conflict of interest.

Source(s) of support: The author(s) received no specific funding for this work.

Funding declaration: The author(s) received no financial support for the research, authorship, and/or publication of this article.

Ethical approval: Case reports generally exempt from full board if consent obtained.

Author' contributions: All authors contributed to the study conception and design. The conceptualization was performed by OB, and NG. Data collection and analysis were performed by OB, MAI, and KU. The first draft of the manuscript was written by OB and MAI supervised by NG. All authors commented on previous versions of the manuscript. All authors read and approved the final manuscript.

Abbreviations

GTR: Gross total resection

HPC: hemangiopericytoma

MRI: magnetic resonance imaging

SFT: Solitary fibrous tumor

WHO: World Health Organization

RT: radiotherapy

References

1. Ma, M.; Gong, Y.; Tang, X.; Deng, P.; Qian, J.; Hu, X.; Wu, J.; Ding, Z. Solitary Fibrous Tumor in the Saddle Area Treated with Neuroendoscopic Surgery and Proton Therapy: A Case Report and Literature Review. *Oncol. Lett.* **2023**, *26*, 505. https://doi.org/10.3892/ol.2023.14092.
2. Schweizer, L.; Koelsche, C.; Sahm, F.; Piro, R.M.; Capper, D.; Reuss, D.E.; Pusch, S.; Habel, A.; Meyer, J.; Göck, T.; et al. Meningeal Hemangiopericytoma and Solitary Fibrous Tumors Carry the NAB2-STAT6

 doi:10.20944/preprints202605.0591.v1

Fusion and Can Be Diagnosed by Nuclear Expression of STAT6 Protein. *Acta Neuropathol.* **2013**, *125*, 651–658. https://doi.org/10.1007/s00401-013-1117-6.

3. Louis, D.N.; Perry, A.; Wesseling, P.; Brat, D.J.; Cree, I.A.; Figarella-Branger, D.; Hawkins, C.; Ng, H.K.; Pfister, S.M.; Reifenberger, G.; et al. The 2021 WHO Classification of Tumors of the Central Nervous System: A Summary. *Neuro. Oncol.* **2021**, *23*, 1231–1251. https://doi.org/10.1093/neuonc/noab106.
4. Bisceglia, M.; Galliani, C.; Giannatempo, G.; Lauriola, W.; Bianco, M.; D'angelo, V.; Pizzolitto, S.; Vita, G.; Pasquinelli, G.; Magro, G.; et al. Solitary Fibrous Tumor of the Central Nervous System: A 15-Year Literature Survey of 220 Cases (August 1996-July 2011). *Adv. Anat. Pathol.* **2011**, *18*, 356–392. https://doi.org/10.1097/PAP.0b013e318229c004.
5. Gengler, C.; Guillou, L. Solitary Fibrous Tumour and Haemangiopericytoma: Evolution of a Concept. *Histopathology* **2006**, *48*, 63–74. https://doi.org/10.1111/j.1365-2559.2005.02290.x.
6. Furlanetto, T.W.; Pinheiro, C.F.P.; Oppitz, P.P.; de Alencastro, L.C.; Asa, S.L. Solitary Fibrous Tumor of the Sella Mimicking Pituitary Adenoma: An Uncommon Tumor in a Rare Location-a Case Report. *Endocr. Pathol.* **2009**, *20*, 56–61. https://doi.org/10.1007/s12022-009-9063-5.
7. Pakasa, N.M.; Pasquier, B.; Chambonnière, M.-L.; Morrison, A.L.; Khaddage, A.; Perret, A.G.; Dumollard, J.M.; Barral, F.G.; Péoc'h, M. Atypical Presentations of Solitary Fibrous Tumors of the Central Nervous System: An Analysis of Unusual Clinicopathological and Outcome Patterns in Three New Cases with a Review of the Literature. *Virchows Arch.* **2005**, *447*, 81–86. https://doi.org/10.1007/s00428-005-1220-8.
8. Wang, J.; Zhao, K.; Han, L.; Jiao, L.; Liu, W.; Xu, Y.; Niu, H.; Ke, C.; Shu, K.; Lei, T. Solitary Fibrous Tumor/Hemangiopericytoma of Spinal Cord: A Retrospective Single-Center Study of 16 Cases. *World Neurosurg.* **2019**, *123*, e629–e638. https://doi.org/10.1016/j.wneu.2018.12.004.
9. Yang, X.; Jiang, Q.; Yu, B. Solitary Fibrous Tumor Located in the Sella Turcica: A Report of Two Cases and Review of the Literature. *Oncol. Lett.* **2015**, *10*, 354–358. https://doi.org/10.3892/ol.2015.3162.
10. Yin, W.; Ma, C.; Wu, J.; Cai, B.; You, C. A Primary Atypical Solitary Fibrous Tumor of the Sella Mimicking Nonfunctional Pituitary Adenoma: A Case Report. *Acta Neurochir. (Wien).* **2010**, *152*, 519–522. https://doi.org/10.1007/s00701-009-0422-2.
11. Zhong, Q.; Yuan, S. Total Resection of a Solitary Fibrous Tumor of the Sellar Diaphragm: A Case Report. *Oncol. Lett.* **2013**, *5*, 1783–1786. https://doi.org/10.3892/ol.2013.1293.
12. Fan, Y.; Liu, P.; Zhang, J.; Wang, L.; Wu, Z. Identification of Intracranial Solitary Fibrous Tumor and Atypical Meningioma by Multi-Parameter MRI-Based Radiomics Model. *Discov. Oncol.* **2025**, *16*, 1137. https://doi.org/10.1007/s12672-025-02988-0.
13. Wu, J.; Deng, P.; Qian, J.; Lu, Y.; Ding, Z.; Hu, X.; Gong, Y.; Tang, X.; Ma, M. Endoscopic Endonasal Transsphenoidal Surgery for Unusual Sellar Lesions: Eight Cases and Review of the Literature. *Front. Neurol.* **2024**, *15*, 1309691. https://doi.org/10.3389/fneur.2024.1309691.
14. Thapa, S.; Fujio, S.; Kitazono, I.; Yonenaga, M.; Masuda, K.; Kuroki, S.; Bajagain, M.; Yatsushiro, K.; Yoshimoto, K. Solitary Fibrous Tumor or Hemangiopericytoma of the Sella in an Older Patient Treated with Partial Removal Followed by Fractionated Gamma Knife Radiosurgery. *NMC case Rep. J.* 2021, *8*, 697–703.
15. Macfarlane, R.G.; Galloway, M.; Plowman, P.N.; Thomas, D.G.T. A Highly Vascular Intracranial Solitary Fibrous Tumor Treated with Radiotherapy and Toremifene: Case Report. *Neurosurgery* **2005**, *56*, E1378; discussion E1378. https://doi.org/10.1227/01.neu.0000159717.37748.b5.
16. Persico, M.; Weinberg, B.D.; Neill, S.G.; Shu, H.-K.; Zhong, J. Incidental High-Grade Sellar Solitary Fibrous Tumor Mimicking Non-Functioning Pituitary Adenoma: A Case Report and Literature Review. *Am. J. Case Rep.* **2025**, *26*, e946592. https://doi.org/10.12659/AJCR.946592.
17. Juco, J.; Horvath, E.; Smyth, H.; Rotondo, F.; Kovacs, K. Hemangiopericytoma of the Sella Mimicking Pituitary Adenoma: Case Report and Review of the Literature. *Clin. Neuropathol.* **2007**, *26*, 288–293. https://doi.org/10.5414/npp26288.
18. Gunasekaran, A.; Santos, J.M.; Vandergrift, W.A. 3rd Supraorbital Craniotomy for Sellar Solitary Fibrous Tumor: Operative Technique and Literature Review. *World Neurosurg.* **2020**, *141*, 395–401. https://doi.org/10.1016/j.wneu.2020.06.108.

 doi:10.20944/preprints202605.0591.v1

19. Ramanathan, P.; Mantziaris, G.; Pikis, S.; Young, L.; Dumot, C.; Sheehan, J. Stereotactic Radiosurgery for Sellar Solitary Fibrous Tumors: Case Report and Literature Review. *J. radiosurgery SBRT* **2022**, *8*, 159–163.
20. Sahai, P.; Singh, G.; Mondal, D.; Suri, V.; Julka, P.K. Solitary Fibrous Tumor of the Sellar Region Treated with Adjuvant Radiation Therapy. *Asian J. Neurosurg.* **2016**, *11*, 449. https://doi.org/10.4103/1793-5482.145186.
21. Cassarino, D.S.; Auerbach, A.; Rushing, E.J. Widely Invasive Solitary Fibrous Tumor of the Sphenoid Sinus, Cavernous Sinus, and Pituitary Fossa. *Ann. Diagn. Pathol.* **2003**, *7*, 169–173. https://doi.org/10.1016/s1092-9134(03)00016-9.
22. Kim, H.J.; Lee, H.K.; Seo, J.J.; Kim, H.J.; Shin, J.H.; Jeong, A.K.; Lee, J.H.; Cho, K.J. MR Imaging of Solitary Fibrous Tumors in the Head and Neck. *Korean J. Radiol.* **2005**, *6*, 136–142. https://doi.org/10.3348/kjr.2005.6.3.136.
23. Jalali, R.; Srinivas, C.; Nadkarni, T.D.; Rajasekharan, P. Suprasellar Haemangiopericytoma--Challenges in Diagnosis and Treatment. *Acta Neurochir. (Wien).* **2008**, *150*, 67–71. https://doi.org/10.1007/s00701-007-1474-9.
24. Das, P.; Haresh, K.P.; Suri, V.; Sharma, M.C.; Sharma, B.S.; Sarkar, C. Malignant Hemangiopericytoma of Pituitary Fossa. *Indian J. Pathol. Microbiol.* **2010**, *53*, 109–111. https://doi.org/10.4103/0377-4929.59196.
25. Jain, D.; Roy, S.; Mehta, V.S. Tumor of the Pituitary. *Neuropathology* **2012**, *32*, 314–317. https://doi.org/10.1111/j.1440-1789.2011.01250.x.
26. Wu, Q.; Zhou, P.; Zhong, C.; Jiang, S. Sellar Solitary Fibrous Tumor Mimicking Pituitary Adenoma. *Neurol. India* 2012, *60*, 678–679.
27. Esquenazi, Y.; Shank, C.; Tandon, N.; Bhattacharjee, M. Lipomatous Hemangiopericytoma of the Sellar Region: Case Report and Review of the Literature. *Ann. Clin. Lab. Sci.* **2014**, *44*, 104–108.
28. Gibson, B.; Mancini, C.; Parker, J.; Applebaum, M.; Alatassi, H. Sellar and Suprasellar Anaplastic Hemangiopericytoma in a 34-Year Old Man. *Ann. Clin. Lab. Sci.* **2017**, *47*, 349–353.
29. Nesaratnam, N.; Thomas, P.B.M.; Kirollos, R.; Vingrys, A.J.; Kong, G.Y.X.; Martin, K.R. Tablets at the Bedside - IPad-Based Visual Field Test Used in the Diagnosis of Intrasellar Haemangiopericytoma: A Case Report. *BMC Ophthalmol.* **2017**, *17*, 53. https://doi.org/10.1186/s12886-017-0445-z.
30. Ghanchi, H.; Patchana, T.; Christian, E.; Li, C.; Calayag, M. Pediatric Sellar Solitary Fibrous Tumor/ Hemangiopericytoma: A Rare Case Report and Review of the Literature. *Surg. Neurol. Int.* **2020**, *11*, 238. https://doi.org/10.25259/SNI_234_2020.
31. Ebrahimzadeh, K.; Mirahmadi Eraghi, M.; Ansari, M.; Dmytriw, A.A. Sellar Hemangiopericytoma Masquerading as Pituitary Adenoma: An Overlooked Intriguing Case Study Unveiling a Rare Surgical Conundrum. *Front. Surg.* **2024**, *11*, 1359787. https://doi.org/10.3389/fsurg.2024.1359787.